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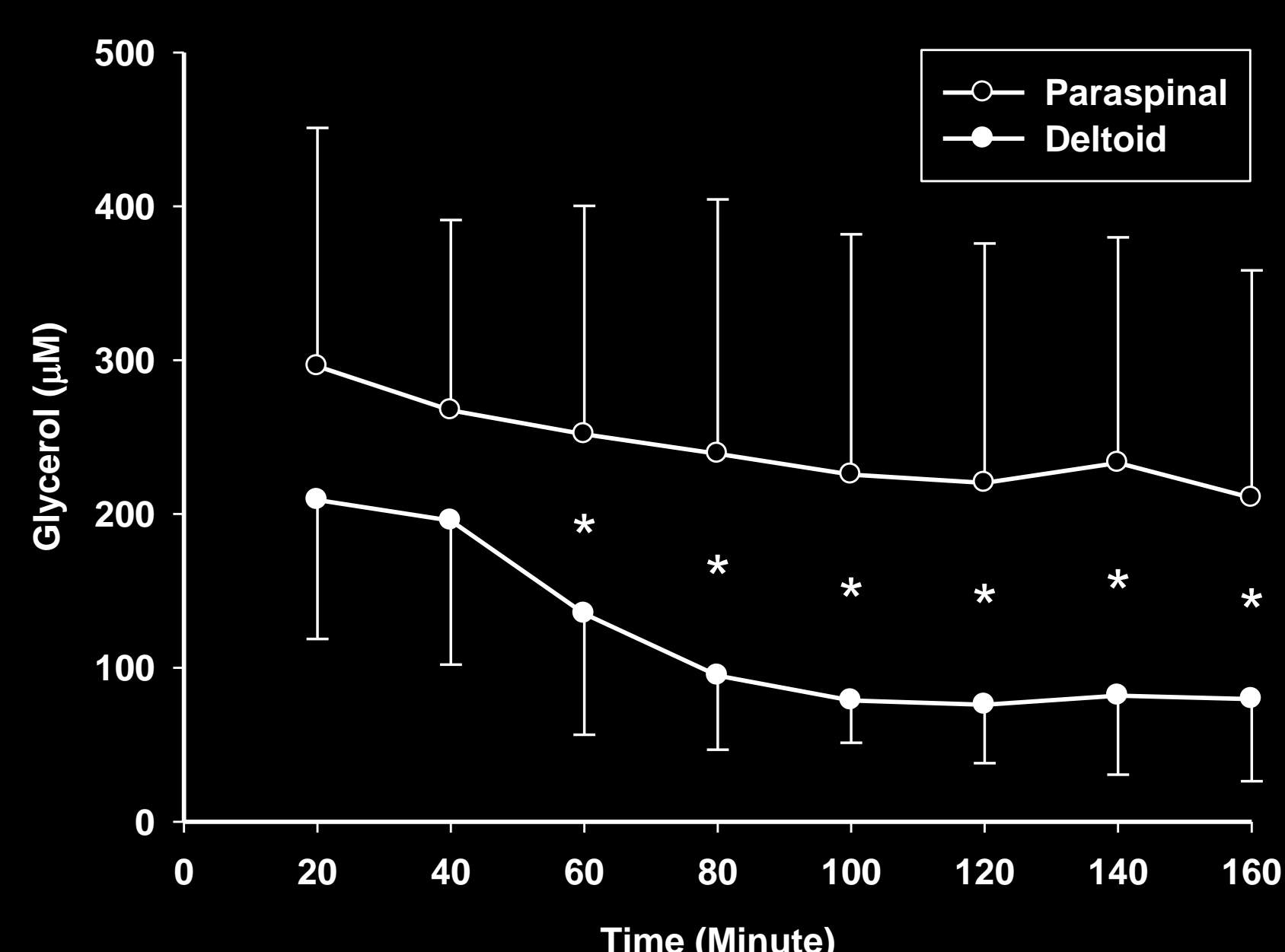
Reduced Surgical Invasiveness To The Paraspinal Muscle In Minimal Invasive Spine Surgery

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INTRODUCTION

- The reasoning for performing minimal invasive spine surgery (MISS) is the perception that a gentle surgery is in many cases more beneficial for the patient, than a traditional surgery would be. The benefits are understood to be a faster healing, less pain, and consequently a faster mobilization and rehabilitation.
- The lesser damaging of the soft tissue under minimal invasive surgery is most likely one of the main reasons for these benefits. In a previous study we have proven glycerol concentration changes in the paraspinal muscle to be related to the extension of exposure.



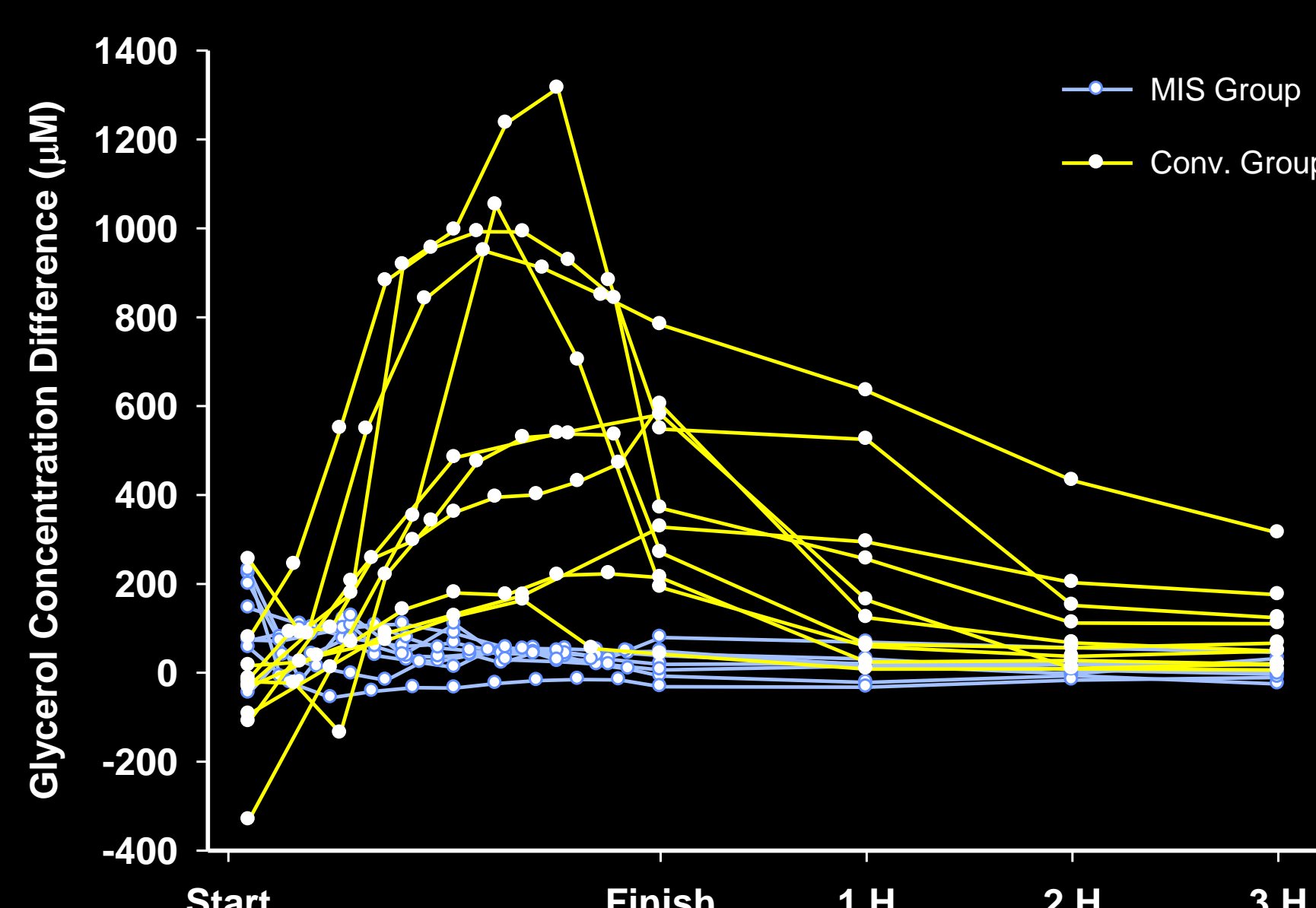
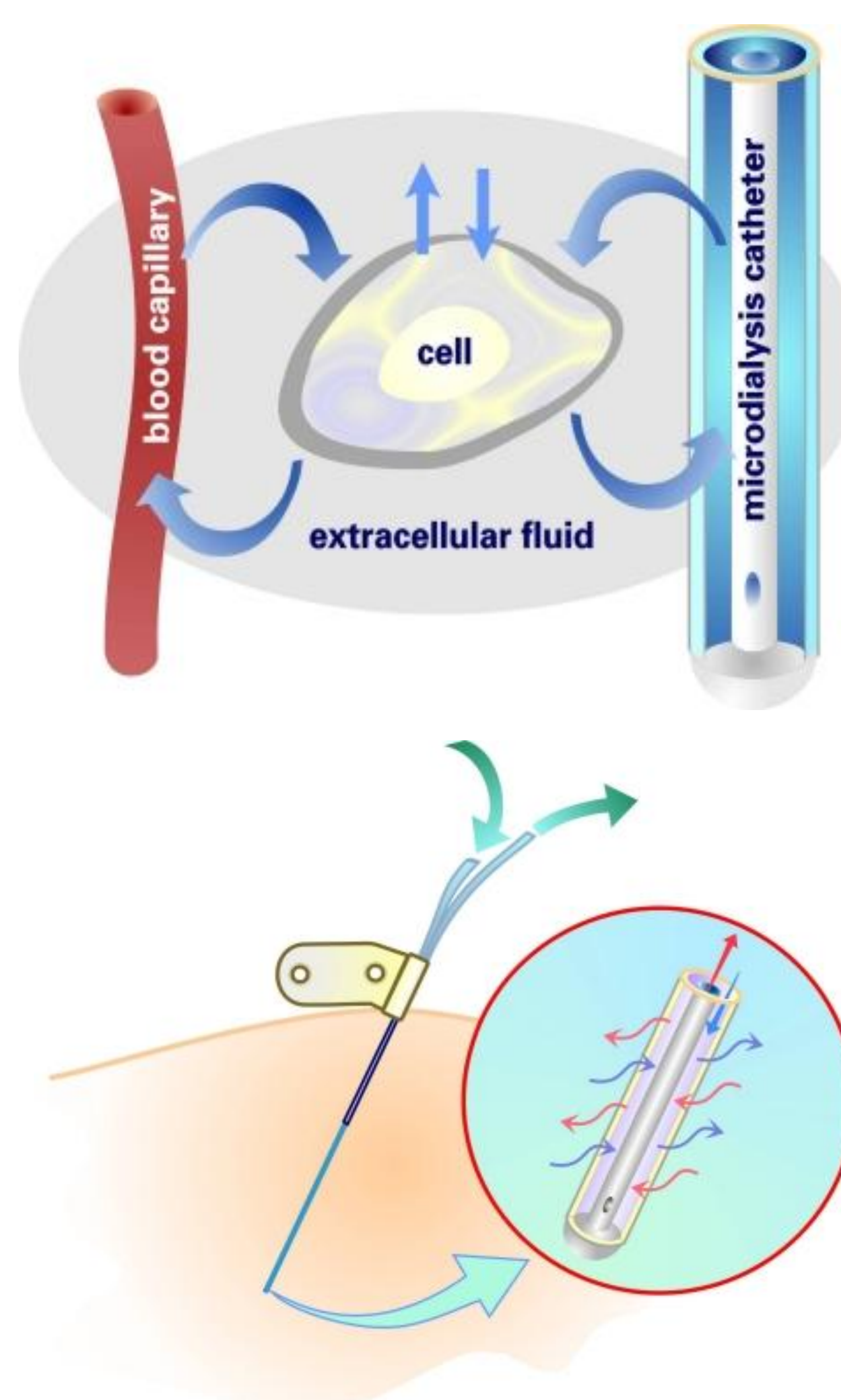
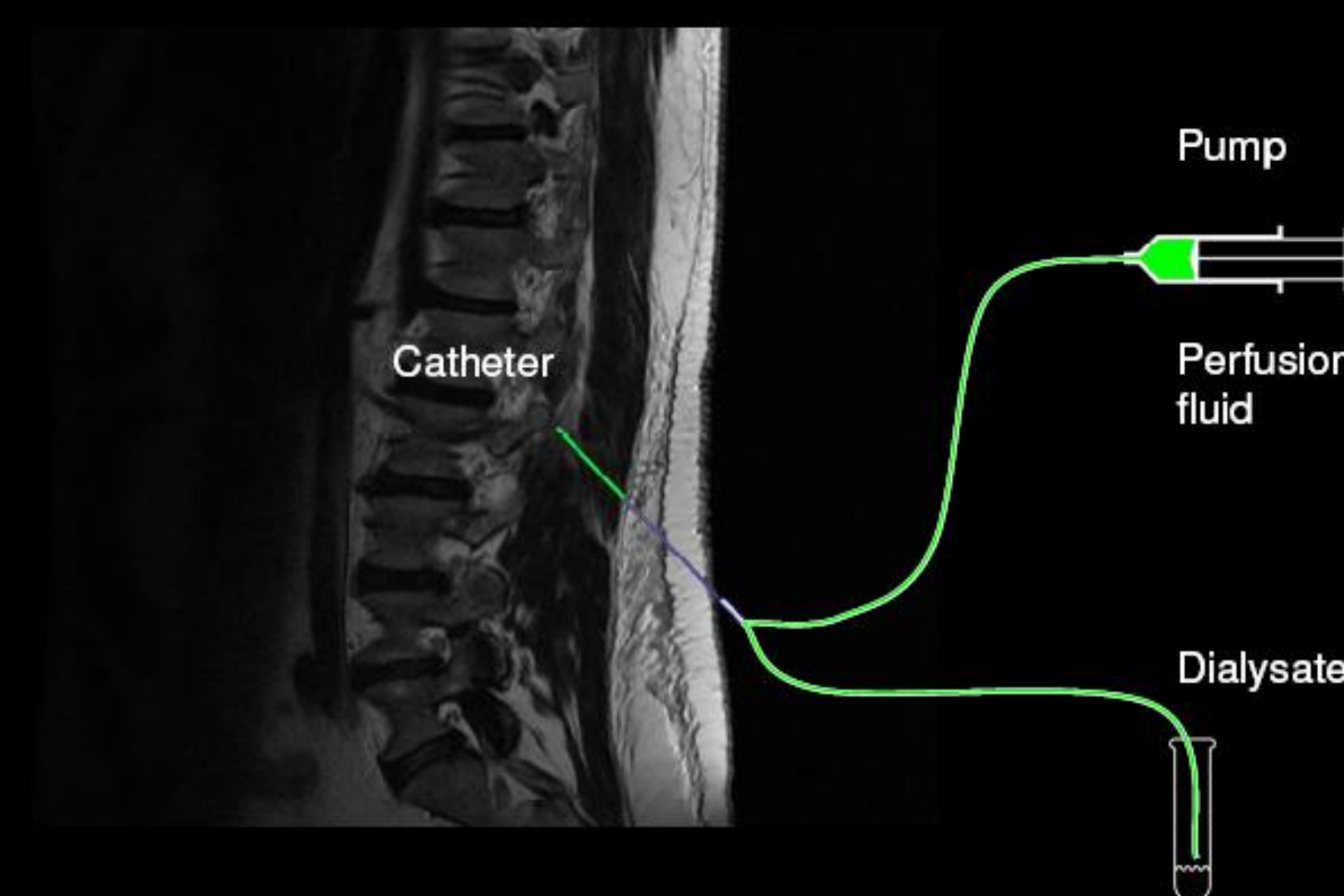
OBJECTIVES

The aim of this study was to quantify glycerol concentrations changes in the paraspinal muscle during traditional open spine surgery (TOSS) and MISS.

METHODS

- Eighteen patients scheduled to undergo lumbar surgery were enrolled in this study.
- Glycerol concentrations of the paraspinal muscle and deltoid muscle, during surgery, were measured in 8 patients during TOSS and in 10 patients during MISS.
- Microdialysis samples were collected every 20 minutes during surgery.
- Glycerol concentration difference were calculated

Microdialysis Setup



RESULTS

- Glycerol concentration differences (GCD) between the paraspinal and deltoid muscle were 124.1 (119.6) micro mol in the TOSS group and 46.4 (43.4) micro mol in the MISS group ($P = 0.001$).



CONCLUSIONS

- This study showed a relationship between the surgical approach and GCD level. Reduced GCD level indicate a reduced invasiveness of MISS to the paraspinal muscle.

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